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ABSTRACT

Vocational education has a role to play in transition education, especially in relation to postsecondary institutions and to initial employment. Recent overseas developments in vocational education and the transition from school to working life have implications for contemplated changes in senior secondary school curriculum, assessment, and qualifications in New Zealand. These include developments in English, mathematics, and science teaching through cooperation between teachers of academic and vocational subjects; new approaches to develop the skills necessary to provide for the different characteristics and occupational requirements of an emerging technological society; the potential offered by work exploration in developing positive attitudes and increased employability and earning power in students; novel approaches involving schools and communities to increase students' self-esteem and employability; the role of entrepreneurship education in promoting self-employment and small business establishmen; and benefits arising from in-service training of teachers. It is concluded that while New Zealand lacks, by international standards, both a commitment and a systematic approach to vocational education in secondary schools, the opportunity now exists for positive initiatives in this area. (Appendixes include the following brief reports that supplement the text: (1) Training and Employment; (2) Reinforcing the Importance of a General Education; (3) Schools Must Change--The New York Experience; (4) Cooperative Education--Issues to Consider; (5) Employability Skills--The Colorado Initiative; and (6) Entrepreneurship Education--The PACE Programme.) (YLB)

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THE ROLE OF VOCATIONAL EDUCATION IN PREPARING YOUNG PEOPLE FOR ADULT LIFE AND EMPLOYMENT

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The Vocational Training Council (VTC) was established by Act of Parliament in 1968 to make recommendations on training to the Government and industry, to undertake research and to promote systematic training throughout New Zealand.

- The Council is an independent body which reports to the Government.
- Its membership includes Employers, Unions, Government Departments, the education sector and special interest groups.
- Its Advisory Committees produce guidelines on a wide range of training matters including:
  - apprenticeship
  - information technology
  - management
  - Maori and Pacific Island people in the workforce
  - women in the workforce
- The VTC employes a full time secretariat whose staff include advisors, consultants, training analysts and researchers.

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Vocational Training Council
P.O. Box 11361
Wellington
New Zealand

1985

The Role of Vocational Education in Preparing Young People for Adult Life and Employment

A DISCUSSION PAPER

Prepared for the
Vocational Training Council
by Derek E Wood
Director

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FOREWORD

As the statutory body charged with the responsibility for advising the Government concerning the training needs and requirements of the workforce the Vocational Training Council is directly concerned with that critical period of personal development which occurs during the transition from school to employment and adult life. It is during this period that young people will acquire skills, knowledge and attitudes which will contribute to the full development of their capacities and potential both as citizens and as members of the workforce. Such development will, in turn, be significant in assisting enterprises to improve their economic and social effectiveness.

This Discussion Paper has been prepared by the Director of the Vocational Training Council to complement a Background Paper presented by the Council to the Employment Promotion Conference in March of this year. Its preparation follows attendance at three meetings in the United States during June. The first was one of a number of seminars conducted by the National Academy for Vocational Education following publication late in 1984 of The Unfinished Agenda, the Report of the National Commission on Secondary Vocational Education. The second was an OECD meeting of experts considering, amongst other things, the role of education in the economy and emerging trends in the whole field of vocational education and training, while the third involved this group of experts meeting with American State Directors of Vocational Education to discuss recent developments in America. The Paper also draws on the Director's own extensive experience in secondary education, his other overseas studies in recent years, and his participation in the area of policy formulation related to vocational education and training.

Although prepared originally as a report to the Vocational Training Council it has been agreed by the Standing Committee of the Council that the information it contains is of such relevance to current discussions relating to transition education that it warrants wider consideration. The Standing Committee has reached this conclusion for a number of reasons. First, the Paper is an elaboration of the points of principle relating to the education and training of young people contained in the Council's paper, Training and Employment. Second, it complements two other recent discussion papers, Skills for Young People and the First Report of the Committee of Inquiry into Curriculum, Assessment, and Qualifications in Forms 5 to 7. Also, and most importantly, there is a belief that, when changes that will shape the future of secondary school curricula are being considered, the role of vocational education and training must be fully understood and its contribution to a general education and personal development recognised and accepted.

In agreeing to release this Discussion Paper prior to its consideration by the full Council the Standing Committee recognises that it contains ideas and draws conclusions that may be considered provocative by some. However, this is intentional as the purpose of the Paper is to generate ideas, to stimulate discussion and to encourage comment. It is thus not only a Discussion Paper, but also a resource booklet. Hopefully the feedback received, both from the constituent bodies and groups represented on the Council and from others with a special interest or involvement in vocational education and training in the transition area, will provide a wide range of points of view to assist the Council in its task of developing policy advice to the Government and so enable it to make a well informed contribution to a number of current ministerial enquiries.

This Foreword would be incomplete without three particular acknowledgements. Through its confidence and the opportunities it has provided for widespread travel the Council itself has made this Discussion Paper possible. In its preparation considerable assistance has been received from colleagues and professional associates both in New Zealand and abroad who have contributed to the material from which the text has been developed or have commented on various drafts. Finally the work of Mrs Jude Alekna is recognised with appreciation for her cheerful and meticulous attention to all matters relating to the typing of the manuscript and its preparation for publication.

Derek E Wood
Director

Wellington
August 1985

FEEDBACK

Constituent bodies and groups represented on the Vocational Training Council will be able to raise matters of interest to them through their membership of the Council in the normal way. Others with a special interest in vocational education and training in the area of transition from school to employment and adult life should send their comments to:

The Director, Vocational Training Council, PO Box 11 361, WELLINGTON

not later than Friday, 15 November 1985

SHORT REPORT

This Paper discusses the **role of vocational education** as an educational process. It explores the capacity of vocational education to combine with academic education as part of a balanced approach to achieve the multiple goals of secondary schools and to motivate students to develop occupationally relevant broad based skills. To achieve these aims vocational education is seen as being concerned with the areas of personal and social skills and attitudes; communication and computational skills; technological literacy; broad based occupational skills; foundation career planning and continuing education.

The Paper then examines **recent overseas developments** in vocational education and the transition from school to working life in the light of changes currently being made and contemplated in senior secondary school curriculum, assessment, and qualifications in this country. These include in particular:

- Developments in English, Mathematics and Science teaching through co-operation between teachers of academic and vocational subjects
- New approaches to develop the skills necessary to provide for the different characteristics and occupational requirements of an emerging technological society
- The potential offered by work exploration in developing positive attitudes and increased employability and earning power in students and reduced recruitment and training problems for employers
- Novel approaches involving schools and communities to increase students' self-esteem and employability
- The role of enterprise or entrepreneurship education in promoting interest in and developing skills suitable for self-employment and small business establishment
- Benefits arising from short term interchanges involving educators with those employed in commerce and industry; and other measures designed to assist the in-service training of teachers

The conclusion reached is that, despite the good work of many individual schools and teachers, by international standard New Zealand lacks both a commitment and a systematic approach to vocational education in secondary schools. The opportunity now exists for positive initiatives that can help to increase the relevance of senior secondary education for many students.

The questions for consideration explore options for the development, in consultation with educators, employers and trade unions, of a clear definition of vocational education in the senior secondary school and suggest a practical approach for implementing a policy based on such a definition.

INTRODUCTION

The Vocational Training Council, in its Report Training and Employment prepared for the Employment Promotion Conference in March 1985 (1), stressed the need to rethink the traditional attitudes concerning the transition from school to working life. In arguing that the artificial distinction between school leavers (those not previously employed) and young workers should be removed the Council made five specific recommendations (detailed in Appendix A) designed to provide all young people in this group with equal and continuing rights to vocational education and training.

In Skills for Young People released in July 1985 (2) the Ministers of Education, Employment and Maori Affairs have called for the development of improved transition education policies for secondary schools. In this context their Discussion Paper states, on page 8 that,

> *"Transition education should provide students who are still at school with the knowledge and skills which will assist them to move successfully to the adult world beyond school, including further vocational education and training and the world of work"*

Following a summary of developments that have taken place in New Zealand schools and the factors inhibiting further progress their Paper goes on to express the opinion that, *"What is needed, therefore, is for school-based transition programmes to become a mainstream activity, fully integrated into the school curriculum."*

What follows in this Discussion Paper on the role of vocational education in preparing young people for employment and adult life within the framework of the school is a more detailed development of the broad policy approach recommended by the Council in March and reinforced in Skills for Young People. It is also written in the context of the current review of the curriculum, assessments, and qualifications in the senior secondary school including the recent decision to remove the University Entrance examination from the Sixth Form. Its main purpose is to report on recent developments and current policy considerations overseas in the field of vocational education and training at the senior secondary school level and during transition to working life and to consider their significance for New Zealand. While not an exhaustive study, the Paper identifies a key issue that is of concern in a number of countries. This is the role which secondary schools might play in transition education, especially in relation to post secondary institutions and to initial employment.

In the current consideration of transition education and training it is also important to recognise the special needs of particular groups of disadvantaged young people. For instance, whereas (to March 1984) about one in five male school leavers entered an apprenticeship, the comparable figure for females was one in thirty-three (and these mostly in ladies hairdressing). In the face of such figures it is hardly surprising that some 56% of the female workforce is still engaged in only seven occupations - teaching, nursing, clerical work, typing, saleswork, book-keeping and clothing manufacture. It is widely accepted that girls face more restricted employment opportunities than boys. The position of young Maoris and Pacific Islanders is generally considered to be even more serious. Vocational education, sensitively introduced with an awareness of the needs of these groups, could make a valuable contribution to the enhancing of their basic skills and the widening of their career horizons. However, to be effective, special encouragement, advice and support would be needed to assist in the difficult task of changing attitudes of employers, educators, and parents as well as of students. A beginning has been made with this task, but, as in most overseas countries, much still remains to be done.

The practices which have been adopted in different countries vary one from another for a variety of reasons but they all have one important feature in common - that, on average, the period spent in formal education or training programmes is considerably greater than occurs in New Zealand. This applies whether the education and training takes place in a school system as in America and as currently being considered in France, or in an industry setting as characterised by the German Dual system, or in a mix of these as typified by recent developments in both schools and the Youth Training Scheme (YTS) in the United Kingdom. But, no matter how different their approach, these countries are all committed to the concept of a systematic and formal provision of vocational education for young people prior to, or in association with, their entry to the workforce.

According to Skills for Young People, by world standards, we have done badly in this area. But this is not to suggest that we have done nothing. Examples of some of the many innovative practices in New Zealand included in the text which follows are evidence of this. However, the increased freedom for schools that will result from the removal of University Entrance from Form Six provides a unique but shortlived opportunity to ensure that future school leavers are even better prepared to cope with the society of tomorrow. In the light of overseas trends New Zealand secondary schools are at the crossroads because the current senior school review provides educators with the opportunity to display positive

leadership in the preparation of students for the world of the Twenty-First Century in which they will live and work. Overseas experience suggests that an increased perception by students of the relevance of senior school programmes can be a powerful factor in encouraging them to remain longer in the formal education system. However, in this regard, it is also necessary to consider new opportunities for full-time study in technical institutes and community colleges - possibly as a complement or an alternative to senior courses in secondary schools. The alternative appears to be a continuation of what, by international standards, is an early leaving age and the development of training opportunities that are primarily employment related with institutional education playing a secondary role.

The options are clear, but the way is not, as internationally there is still a strong debate as to the best direction, with successful examples of various approaches. New Zealand has a rare opportunity right now to develop its own distinct solution to this problem. This Discussion Paper aims to assist in the development of such a solution in two main ways. First, through an examination of recent overseas initiatives, especially in the United States, to complement information provided in earlier reports on developments in other countries (3). This is intended to provide food for thought and further study rather than role models to be copied slavishly. Second, through the questions which follow, to suggest ways by which positive policy advice to the Government could be developed by the Council. The questions for consideration seek to take advantage of the present opportunities provided by the current curriculum review and to complement proposals relating to schools contained in the recent statement from the joint Ministers.

SOME QUESTIONS TO CONSIDER

It is on the basis of the opportunity for change which arises from present developments in New Zealand and the lack of a systematic approach to vocational education at this level that the following questions are posed:

A Question of Definition (Pages 1 to 3 and 7 to 9 Refer)

(1) In the course of the current review of curriculum, assessment, and qualifications in the senior secondary school, should a clear definition be developed of the vocational education component in the secondary school curriculum and its role in preparing young people for work and for adult life ?

(2) If so, should such a definition be developed in consultation with educators and with employers and trade unions in the private and public sectors? In such consultations should consideration be given to the views of young people who have recently entered or who are about to enter the workforce?

(3) Should such a definition recognise the contribution of vocational education:

- to the quality of general and academic education?
- to assist the development of students in the areas of: personal and social skills and attitudes; communication and computational skills and technological literacy; broad based occupational skills; foundations for career planning and continuing education?
- to the motivation of disillusioned and disgruntled students and as a catalyst to reawaken their commitment to school and to learning?

(4) Should provision be made, through positive support measures:

- to translate the contribution of vocational education into the secondary school curriculum?

-and, in this regard,

- to recognise and actively provide for the special needs of disadvantaged groups through advice, encouragement and equal access?

Reinforcing a General Education (Pages 10 to 20 Refer)

(5) In the development of vocational education programmes, should teachers from a variety of subject backgrounds be involved to help co-ordinate the contribution that vocational education can make in the development of basic educational skills?

(6) Through consultation with industry and commerce, should national vocational education guidelines and standards be established, supported by national advisory committees, for the development of Sixth Form Certificate subjects which are relevant to adult life and employment in a technological society?

(7) Should improved provisions for co-ordinating the acquisition of vocational skills by school leavers and potential school leavers, including provision for the cross-crediting of qualifications, be sought through consultations with representatives of secondary schools, technical institutes, examining authorities, trade unions and employers?

Work Exploration (Pages 20 and 21 Refer)

(8) Through consultations between secondary and post-secondary educators, employers and trade unions, should the existing student work exploration scheme in secondary schools be evaluated with a view to:

- including structured work exploration as an integral part of a subject option at the senior secondary school level which complements teaching programmes and secures credit for skills and competencies gained in the workplace?
- expanding present provision for full-time students in technical institutes and community colleges which provide them with credits towards a qualification that will assist in gaining initial employment?
- identifying and meeting the resource requirements for both education and industry of a more structured approach?
- promoting pilot programmes to test this whole concept?

(9) Are the issues relating to work exploration raised in Appendix D relevant to New Zealand and are the proposed recommendations appropriate to our situation?

Personal and Social Skills (Pages 22 and 23 Refer)

(10) In the current consideration of both the core and senior school curricula should special attention be given:

- to the identification of areas where personal and social skills can be further developed within normal school programmes?
- to the development of teaching strategies and resources to provide opportunities for students to develop such skills through practical exercises and experiences?

Minding Your Own Business (Pages 23 to 25 Refer)

(11) With regard to education related to small business and self-employment should a working party representative of education and business be established:

- to identify existing provisions for such education in New Zealand and the levels at which it is currently available?
- to test the concept of enterprise education against existing programmes?
- to make recommendations as to the modifications and resources necessary to integrate such education into these programmes in a structured and co-ordinated way?
- to recommend other possible approaches for further developing the concept of such education in New Zealand?

Teacher Training (Pages 25 and 26 Refer)

(12) Should pre-service and in-service training for teachers provide:

- specific competency-based skill training in the educational processes associated with vocational education?
- opportunities, through consultation with employers and trade unions, for interchanges with industry and commerce?

(13) Should the particular training needs of careers advisers, work exploration and transition education teachers be recognised by the establishment of a joint working party from education and business/industry to consider overseas developments in this area and to make appropriate recommendations for the introduction of similar assistance and training in New Zealand as an integral part of full guidance networks in all secondary schools?

A QUESTION OF DEFINITION

In its submission to the Employment Promotion Conference in March 1985 the Vocational Training Council defined the role of vocational education and training, as *"to develop the capacities and potential of individuals as members of the workforce and to assist enterprises to improve their economic and social effectiveness"*. To achieve these objectives the Council identified the following areas in which it believed vocational education and training should be concerned with the development of individuals:

> Personal skills and attitudes; communication and computational skills and understanding of terms associated with new technology; employability skills; occupational skills and knowledge [broad or specific as appropriate to the individual's stage of development], and career planning and continuing education

Although the Council rejected the concept that vocational education and training simply prepares people for low status jobs requiring only manual skills it would be fair to say that **there is still a widespread lack of understanding and consequent suspicion of the term 'vocational education' in New Zealand society.** This is the legacy of the former agricultural, trades, homecraft and commercial courses in secondary schools which tended to have a narrow and restricted educational base with the purpose of providing job specific training for direct entry to the workforce. When combined with the fact that such courses suffered in status by comparison with academic and professional courses it is understandable that the term 'vocational education' is still misinterpreted by many people even though the tradition of comprehensive education is now well established.

The problem of acceptance is not peculiar to New Zealand. For instance, in American schools, vocational education has, in the past, been viewed as being primarily concerned with occupational training for initial entry to the labour market. As vocational courses have tended to provide 'hand' rather than 'head' skills, leading to blue-collar jobs of perceived low status, they have been regarded by many parents as a last resort if their children failed to cope with academic courses leading to college and to high status white-collar jobs. Thus they have been undervalued by parents, pupils, teachers and the community and have tended to become over burdened with less able students.

Earlier practice in both countries has thus prevented a full understanding of the wider contribution that vocational education can make as part of a sound foundational general education. The extent and timing of the job specific training that must follow should not be allowed to cloud the real issue which is that all students need a mix of both academic and vocational courses and that, within this structure, vocational education should offer additional opportunities to enrich the educational experience of young people.

Such a development is in keeping with UNESCO's Revised International Recommendation of 1984 concerning technical and vocational education which advocated action *"to introduce notions of technology into the curricula of basic education"* (4). The point of view is argued by UNESCO that:

> *"This 'basic education', often called general education, can no longer be designated as 'general' in our times unless it includes initiation into the world around us and if, in particular, it fails to take into account the evolution of technology, manufacturing processes and the advantages and disadvantages of pupils' immediate or distant environment"*

In amplification of this statement UNESCO makes the important point *"that technical subjects are steadily moving away from practical training of a vocational character towards a greater emphasis on comprehension and applications because schools are gradually coming to realise that these technological subjects contribute in no small measure to the general education of pupils"*. It is on this basis, and as a result of an enquiry undertaken in 1983, that UNESCO sees the long term results of such developments as being, *"to bring about a change in attitudes, the gradual integration of general and technical education and the adaptation of education to active life"*.

In the light of these international observations it is pertinent to compare the purposes of schools as identified in the Review of the Core Curriculum for Schools published in New Zealand in 1984 (5) with the objectives of vocational education advanced in The Unfinished Agenda, the Report of the American National Commission on Secondary Vocational Education published late in the same year (6). Whereas the New Zealand Review categorises the role of schools under three headings designed to help students achieve intellectual, social and personal goals the American Report adds vocational goals as a fourth dimension.

In defining vocational education as, *"concerned with the development of students in five areas: (1) personal skills and attitudes, (2) communication and computational skills and technological literacy, (3) employability skills, (4) broad and specific occupational skills and knowledge, and (5) foundations for career planning and lifelong learning"*, the American Report supports the definition of vocational education expressed in the introduction to this Paper by the Vocational Training Council.

These purposes of vocational education are obviously shared by other parts of the secondary school system, as well as by external programmes, agencies and extra curricular activities. What the American Report argues convincingly is that, given the purposes outlined above, the role of vocational education should be to make youth employable, whatever the state of the economy, and that this significant role can be best accomplished when vocational education complements academic or general education.

This complex inter-relationship is well illustrated in a recent Department of Education memorandum to New Zealand secondary school principals. There, the Director of Schools, in referring to recent initiatives of Michael Reid at Riccarton High School which have sought to identify the pre-vocational skills component across the entire senior curriculum, said *"The outcomes were startling in that they shattered the traditional view of what constitutes vocational and non-vocational subjects. He found, for example, that history and art can hold their own, when viewed narrowly in terms of their vocational value, with those subjects we traditionally concede have a high relevance in the work place"* (7).

If this point of view is accepted it is a relatively easy step to accept that, in the same way, the so called 'vocational subjects' such as workshop technology, computer studies and home economics can make an equally valid contribution to a general education. The time to establish the correct role and purpose of vocational education in the secondary school in contributing to the preparation of young people for adult life and employment is obviously now, during the course of the current curriculum review. The intention of the first four discussion questions on page 4 is to promote this concept and facilitate its introduction.

THE OVERSEAS BACKGROUND

The major debate in many overseas countries relating to vocational education appears to be the extent to which the secondary schools, post secondary institutions and the industrial and commercial enterprises should be involved in or have responsibility for vocational education in the area of transition from school to work. Due to a unique combination of historical, cultural, political, social and economic factors in each country differing approaches are followed. However, given the rapidity rather than the fact of technological change, many systems are currently under pressure and there are potential lessons to be learned from a study of differing approaches.

The United States of America: Many recent reports - most notably 'A Nation at Risk' (8) - have criticised the quality of education being provided in secondary schools. The response of the majority of states has been to increase the number of academic courses required for high school graduation and thus reduce the number of optional courses (including vocational education) that students may choose. In pointing out that 28% of students already drop out of high school; that many who do graduate cannot read, write, compute or perform well enough to find meaningful work; that many college graduates hold unmarketable degrees (9); and that 80% of jobs in America do not require a college degree, The Unfinished Agenda suggests that more is not necessarily better and that a system of rigid academic requirements ignores individual differences. It calls for a more balanced initiative to promote excellence in secondary schools.

The Report argues that vocational education is both a body of knowledge and an educational process but that the latter has not received the degree of attention it deserves. It claims that, as an educational process, vocational education has a considerable potential for accomplishing the multiple goals of secondary schooling. In particular it points to the real strength of vocational education as being its ability to motivate students and to act as a catalyst to reawaken their commitment to school and to learning and to the acquisition of academic skills whose relevance they see in a new light. Thus it sees vocational education as a significant part of a quality high school education.

The United Kingdom: The traditional independence of English schools is well known so that contemporary changes and proposals for a much more determined intervention into the curriculum mark a clear departure from tradition. This is probably best illustrated by the New Technical and Vocational Education Intiative (10) funded by the Manpower Services Commission and introduced without consultation in 1983. By 1986 every Local Education Authority will have some

schools involved in this scheme which gives opportunities to local groups of teachers to develop curricula for the 14 to 18 age group which include technical, technological and industry related material.

At the same time the British Government is currently considering ways of extending the Youth Training Scheme to provide for all young people up to the age of 18 a foundation of vocational education, training and planned work experience which gives all trainees the opportunity to obtain a vocational qualification. The scheme, based on the concept of Training for Skill Ownership (11) aims to provide competence in a job and/or a range of occupational skills; competence in a range of transferable core skills; ability to transfer skills and knowledge to new situations; and personal effectiveness. This training is intended to lead to a qualification demonstrating occupational competence or credit towards such a qualification. If introduced, the revised Youth Training Scheme will provide for a weekly allowance for trainees, higher in the second year, with provision for managing agents to pay above the minimum (12).

The proposals are contained in a British Government White Paper, Education and Training for Young People (13), tabled in the House of Commons in April 1985. The Paper states that the Government has already taken action on a scale unparalleled by its predecessors and indicates that it is committed to promoting a coherent approach to the development of vocational education and training which will help to put the country on terms with its competitors overseas. At the same time a further White Paper, Better Schools set out the Government's conclusions following its review of policies for schools and its principal aims for all sectors of education (14). **Thus the United Kingdom appears poised to make what may well be an historic decision - whether vocational education and training is to be central to economic growth or whether it is to remain a social provision as it has been in the past.** If the message contained in Competence and Competition (15) has been heeded, and there is every indication that it has, it seems certain that the major changes currently contemplated will be rapidly translated into action.

France: There has been a significant change in policy in France following the change in government which has now stated clearly that industrial modernisation is its goal. There have been two important consequences from this. First, vocational education and training has become an important tool of industrial policy leading to much greater involvement of the government in discussions with unions and employers on training - especially for the unemployed. Second, the Ministry of Vocational Training has been re-united with the Ministry of Labour and community training programmes are being developed for young people under the age of 20 years in which an allowance equal to half the minimum wage is paid.

Concurrent with these developments in the labour market the new Minister of Education is seeking to raise the number of school leavers with the equivalent of English 'A' levels (approximating to New Zealand University Bursary) from 25% to 80% in fifteen years (Japan took less time to reach a higher level) and aims to establish an Occupational Baccalaureate as an alternative qualification within secondary schools.

The current debate is centred on where vocational education and training for young people should be placed. The present French Government has made a clear commitment to it being placed in rather than outside the secondary school with provision for students to gain work experience under teacher supervision.

Germany: A characterisitic of the German workforce is the high level of formal vocational education which has been undertaken, particularly among young members of the workforce, due in part to a requirement that all school leavers continue at least part time education until age 18. Although the German tradition of training in enterprises rather than in schools is firmly established in the Dual System (16) a significant development within the school system over recent years has been the introduction of a basic year of pre-vocational training in year ten of schooling (equivalent to Form Six). It is broad based, incorporating a family of trades, and is intended to reduce apprenticeship terms although so far there has been much employer resistance resulting generally in limited credits (up to six months if any).

Japan: Japan's approach to vocational education and training is heavily influenced by its national cultural traits which place emphasis on the long term view with lifelong education as the goal. Hence education is broad based with specialisation being avoided at all levels in the schools. This provides the Japanese employers with the socialised and adaptable 'blank sheets' who will fit more easily into their organisation. The main selection criteria for Japanese employers are levels of educational attainment and attitudes measured against a basic traditional education which provides for the education of the whole person.

Because of this, vocational education plays a very small part in the school system and is certainly not designed as in America, to implant immediately useable work skills. Vocational education as such only becomes important for those students who are not academically gifted. They opt to take a three year post secondary school course in the hope that it will help them to compete for mainly manual jobs. Thus the Japanese view of vocational education and training is more akin to that which is no longer considered appropriate in many western countries.

Australia: There have been two particularly interesting developments in Australia in recent years in the general area of pre-vocational training. The first of these relates to the introduction of full time courses in colleges of technical and further education and the second to the concept of traineeships.

Pre-apprenticeship and pre-vocational courses providing full time training in a technical college for varying periods up to one year were introduced in some States in Australia in the late 1970's. Today enrolments in such courses account for about 20% of the total number undertaking initial trade training and the numbers are growing steadily. Relative to other States, Queensland has the most highly developed system of pre-employment training in Australia covering about one third of all persons undertaking initial trade training. Queensland was also the first State to develop the 'family of trades' concept and to extend this form of training into other areas (for example, business studies) (17).

A more recent development which has provoked widespread discussion has been the recommendation in the Report of the Committee of Enquiry into Labour Market Programmes (The Kirby Report) (18) to introduce new traineeship arrangements, in addition to existing apprenticeships, which will expand the range of training opportunities available to young people. In developing the concept of traineeships the Committee of Enquiry indicated that the objective was *"to capture the benefits of the 'dual system' operating in German speaking countries where youth unemployment rates have been maintained at about average for the population as a whole"*. In other words the concept being put forward by the Committee is a model which is based on using the industrial base to provide entry level training for young people together with continuing training provided mainly in colleges of technical and further education. The work related nature of the training is emphasised by the requirement that there should be contracts for training administered by the State training authorities.

Overview

In the mid 1970's the results of a survey conducted by the International Association for the Evaluation of Educational Achievement (IEA) were published in New Zealand. Results showed that, by comparison with the 17 other participant countries, our students performed creditably. An internal review of standards in New Zealand State schools conducted in 1977 supported these findings and showed that schools were serving their communities well and that standards in basic subjects were, in general, being maintained.

However, despite the additional IEA attitudinal finding that New Zealand students tended to like school, the fact remains that, by international standards, we have a very low retention rate in our secondary schools and a very low incidence of continuing education and training. In fact, the 1981 census showed that only 9% of the New Zealand workforce had completed four years of secondary education (the equivalent of high school graduation in the United States for instance) and only 34% of those in the 16-24 age group were participating in education (19). It is these early leavers who are most probably the chief target of those education critics who advocate a 'back to basics' approach and demand a greater concentration on the traditional 'three r's'. Overseas experience suggests that a better way of dealing with under educated early school leavers may be to seek more effective means of motivating the great majority of young people whose primary interest is the world of work. The significance of this view for New Zealand is examined further in the next section.

SIGNIFICANCE FOR NEW ZEALAND

The decision to remove the University Entrance (UE) examination from the sixth form and the strong indication from the Universities Entrance Board of support for provisional entry to the university at that level provides a unique opportunity to influence the future direction of curriculum development in the senior school. Schools have, for a long time, complained about the academic stranglehold which University Entrance has exercised on sixth form courses and the past failure of good vocationally oriented Sixth Form Certificate courses to survive because of lack of enrolments is well documented. This constraint is recognised in the First Report of the Committee of Inquiry into Curriculum, Assessment and Qualifications in Forms 5 to 7 which notes that UE has *"seriously hindered schools from providing a well balanced education for its students at this level"* and considers *"that the removal of the University Entrance examination from Form 6 should result in an improved education for a significant number of sixth form students"* (20).

Given the enhanced status which the Sixth Form Certificate should now enjoy there is an excellent opportunity to provide a series of national guidelines and standards, to cover both existing and new subjects, within which schools should be encouraged to develop local courses in vocational education. In this way:

- New vocationally oriented courses could enjoy a national credibility while still satisfying differing local needs

- Much teacher time and effort could be saved and progress could be more rapid
- A close liaison could be developed with technical institutes and community colleges to allow credits and parallel study
- Through co-operation with the Universities Entrance Board in-depth development of such subjects at seventh form level could make them eligible as part of the revised entry qualification envisaged by the Board (21)
- The continuing relevance of such courses to future employment opportunities could be assured through the establishment of national commerce and industry advisory councils to assist in developing and monitoring course content and design

It is in these areas that consideration of overseas experience can be of real value to New Zealand.

Some New Zealand schools have already shown that, by being adaptable and persuasive - and sometimes unorthodox - with fifth and sixth form students they can greatly reduce the drop out rate and increase the chances of students gaining employment. It should not be unrealistic to suggest that, as a future goal, all students who plan to enter the workforce direct from school (or, for that matter, seek other than university qualifications) should have completed four years of secondary education and have included at least one course in vocational education in each of their fifth and sixth form years. American experience suggests that this would be of direct benefit to students seeking employment and, indirectly, would also benefit parents, employers and the nation.

Better Schools identifies industry and commerce *"as being among the main customers of British schools"* and points to the need for their involvement in raising standards by explaining their needs and by taking part in the development of policies and activities. The seminar at Atlanta which discussed The Unfinished Agenda gave an up-to-date account of the state of the art in vocational education in America and also explored likely future directions which involved a partnership with business/industry. In this regard there were two areas of particular significance: the contribution that vocational education courses can make to a general education; and the new developments that are necessary if school courses are to be a relevant preparation for adult life in the future. Discussion questions 5, 6 and 7 on page 5 address these questions which are considered further in the following two sections.

A GENERAL EDUCATION - REINFORCING ITS IMPORTANCE

The American view is that vocational education should not dilute a student's general education but rather that it should help to enrich the curriculum for all students regardless of their academic ability or aspirations. In the area of general education correctly structured vocational courses can provide a valuable alternative strategy to help those students who experience difficulty, who are bored, frustrated, alienated or angry, to master basic material and see how abstract courses and concepts relate to real life experiences. Presenting subject matter in a form and manner that makes it more meaningful and significant to the learner is an important aspect of a good quality education. Conversely, if a student cannot see the significance of the subject matter and cannot make sense of it then that student cannot incorporate that subject matter into his or her life and behaviour. In this regard, three significant developments were discussed at the Atlanta Seminar relating to English, Mathematics and Science:

English: The seminar was introduced to an Individualised Language Arts Programme. Current information in the United States, *"concerning students' weaknesses in college (that is, post secondary) and the business world where writing skills are required indicates that there is a need for schools to stress communication skills"*. Similar comments are made in New Zealand where experience has also shown that many students who have and can recognise correct information are unable to provide it in written form.

This programme aims to use writing activities in all parts of the curriculum and it provides two day in-service workshops to train teachers in its use. To ensure that specialist teachers do not see themselves as becoming teachers of English, the programme has been developed by teams of English and specialist teachers working together. The aim is that, through frequent writing in all curriculum areas (assisted by the use of checklists and the teaching and reinforcing of composition and writing skills by all teachers), students will be encouraged to note their personal progress and their continuing needs. This approach to composition involves a total staff. Writing activities appropriate for vocational courses are included in the teacher training programme. Appendix B contains detailed references.

Mathematics: Through the Systematic Teaching and Measuring Mathematics Project mathematics and vocational teachers have worked together to identify twenty-two generic mathematical skills that are required at entry level in twenty major occupational areas.

Using this information they have developed the Vocational Applied Mathematics Programme to produce workbooks that are mathematically correct and vocationally appropriate. So far four workbooks have been completed and a further sixteen are in the process of development. Within each workbook each section contains some basic factual content relating to the specialist subject followed by a series of subject related worksheets employing relevant mathematical skills.

An essential feature of the programme is that each of the workbooks contains an appendix which includes a self check followed by an explanation and a worksheet for each of the generic skills required in that subject area. In this way uniformity can be achieved in the teaching of basic skills and problems can be discussed easily with mathematics teachers. A Teachers Manual is being developed which will be generic to all twenty of the Vocational Applied Mathematics workbooks. Appendix B contains detailed references.

Science: The most recent and perhaps the most exciting development is a course in Principles of Technology. It is essentially a two year course in applied physics which develops naturally from principles learned in junior science. The technician level has been identified as the fastest growing occupational group in high technology organisations and this course is designed to prepare students more effectively for technical careers. It merges academic skills into a broad vocational framework at a stage when many students are uncertain of their future directions but are reluctant to continue with theoretical academic science subjects.

In New Zealand, girls in particular appear to come into this category as a result of sex role stereotyping and its effect on both the socialisation and vocational aspiration of girls and boys. Thus, although statistical evidence shows that girls are at least as successful as boys in mathematics and science at School Certificate level, just over a quarter of the sixth form physics students in 1983 were females. Thus a new subject approach on its own would be unlikely to correct this imbalance. As remarked in the introduction, positive action initiatives would need to be built into the programme here as elsewhere as part of a total careers education and guidance approach if desired effects were to be achieved.

Each of the fourteen units in the Principles of Technology course deals with one principle as it applies in the four energy systems - mechanical, fluid, electrical and thermal - that make up both simple and complex technological devices and equipment. The units also cover the mathematics needed to understand and apply the principles. There is a strong emphasis on practical work in the course and a comprehensive student text and teachers' guide supported by a wide range of video tapes. Appendix B contains detailed references.

New Zealand schools, both primary and secondary, enjoy an enviable reputation for innovation in the general field of teaching basic communication and computational skills. Such developments as the Ready to Read series and Professor Marie Clay's Reading Recovery Programme in primary schools and the National English Syllabus Committee (NESC) approach to identifying and teaching a wide range of essential communication skills in secondary schools are well known and internationally recognised. Similar developments have taken place in the mathematical field where the skills mastery approach has been trialled successfully in a number of secondary schools and the new Beginning School Mathematics (BSM) scheme is being introduced at the primary level. What is not so evident, however, is the development of 'across the curriculum' approaches especially at secondary school level, which incorporate the teaching of basic skills into a wide range of subject areas. Overseas experiments of this nature could be helpful to New Zealand educators and beneficial to our young people.

SCHOOLS MUST CHANGE - THE NEW YORK EXPERIENCE

While many American states were increasing the academic requirements for high school graduation in response to the call for greater quality in education the New York State Education Department, recognising the need to address major changes in society, began a Futuring Project in 1981 (22). The basic premise of this project was that education exists in a larger context and when that context undergoes change, education too must change if it is to continue to be relevant.

In essence, New York has recognised the rapidity of change from an industrial to a technological society (vividly described by John Naisbitt in Megatrends (23)) which has a different set of characteristics and a different set of occupational requirements. In the emerging global economy the most important resource for American business/industry is seen as well trained and highly adaptable human resources rather than capital, as in the past. It is estimated, for instance, that well over 75% of all jobs in America today are now in information and service occupations whereas twenty years ago less than 25% were in these categories. With the rapid increase in New Zealand of employment opportunities in

the information technology, tourist and technician fields and the decline of traditional employment in such production areas as textiles and freezing works there are indications that a similar trend is developing here.

The identification of the specific skills and competencies that workers will require in the future is a very difficult task because business and industry are changing so quickly. Because of that rapid change, the Futuring Report clearly identified the key skills in the future as broad transferable skills - including communication skills, problem solving/decision making, human relations, computer literacy, and an understanding of basic economic concepts. In addition to these skills, however, the Futuring Project recommended that all students seeking employment will also have had job specific training. As similar trends develop in New Zealand the relationship between the senior secondary school, the technical institutes and community colleges, and the transition to work will become of critical importance.

In addition to technological change the Futuring Project recognised the need to consider other important demographic, social and economic trends which are equally relevant in New Zealand. These include the impact of the baby boom generation entering their middle years; increase in life expectancy; the increased number of women entering the labour market; the need for equity between sexes and among ethnic groups; the need to provide opportunities for the handicapped; and the impact on society of an emerging global economy.

To address the changes needed Futuring Committees were set up in each of the following instructional areas: agriculture, business, industrial arts, home economics, health occupations, marketing, trade and industrial, and technical education. Each consisted of twenty members including leaders from education, business/industry, students and social science. Of primary concern to the Committees was the development of a system that would meet the needs of all students, not just the young, but also the ever increasing number of adults who do not have the skills needed for emerging occupations, and who require retraining in order to maintain or regain employment. In addition the Committees wanted a system that would meet the needs of business and industry. To do this it was agreed that the identification of skills and competencies needed in the future would be the primary responsibility of business and industry and the identification of the most efficient and effective ways of delivery would be the task of the educators. Finally, they sought to identify a system that would be sufficiently flexible to permit students to enter programmes when ready, to change career directions with a minimum of disruption, and to advance to higher skills levels without duplicating previous work or leaving gaps. Such a system would also need to be capable of adapting to the changing demands of business/industry.

The Futuring Committees identified a group of core competencies which included broad skills in the categories of personal development, social systems, information systems, resource management and technology. A list of the core competency areas is included in Appendix C. When compared with the perceived aims of New Zealand secondary schools referred to on page 8 the list is much more precise, in line with the concern that has emerged strongly in America for education to be accountable. It appears to take much more account of the importance to students of the areas of resource management and technology than does its New Zealand counterpart contained in A Review of the Core Curriculum in Schools. (5)

Some of the more radical changes that are proposed in New York include: the requirement that every student will have been taught keyboard skills as part of the language arts programme by the end of Grade 4 (or about age 10 years in New Zealand); the introduction of compulsory courses in Grades 7-8 (Ages 13 and 14) in Home and Career Skills and in Technology Education; the development of an Introduction to Occupations Course in Grades 9-10 (Ages 15 and 16) focussing on occupational awareness, job readiness and occupational preparation for broad career options; the development of occupational cluster courses in Grades 11 and 12 (Ages 17 and 18) to develop entry level job skills; and the confining of job specific training to the final year (Grade 12) and adult education. These are discussed in greater detail in Appendix C.

CO-OPERATIVE EDUCATION - OR WORK EXPLORATION

In the United States co-operative education is seen as having an important role in vocational education in secondary schools. It is defined as "*an organisational plan or instructional delivery system that combines work-related learning experiences available in the community with occupationally oriented instruction provided in an education setting*" (24). The nearest parallel in this country is the work exploration programme that is now established in many secondary schools. The benefits argued for the two systems are similar - more positive self image, improved attitudes towards school and employment and better interpersonal skills. Other benefits claimed, include enhanced employability and earning power for students, the benefit for employers from reduced recruitment and training problems and the satisfaction which they gain from helping to educate students. The major difference in the schemes is that the American system is much more formalised so that experience in the firm relates specifically to experience in vocational education at school and this reduces training problems for employers who hire such students. In many cases there is also provision in the United States for students to be paid whilst undergoing work experience.

Some New Zealand schools have already introduced experimental alternative subjects at fifth and sixth form level which incorporate opportunities for work exploration on a one-day-a-week basis but these tend to be informal in character and do not provide for specific skill development. Possibilities that deserve further investigation in New Zealand include the development of alternate or parallel periods of instruction in schools or technical institutes and supervised private or public employment with a written training agreement involving the school or institute, the employer and the student. Such a scheme would require, on the one hand, an educational programme that related both to the student's educational needs and career goals and, on the other, a supervised work programme that complemented this education and increased the student's employability.

In such circumstances, with virtual part-time status, students in America are paid in compliance with award rates and are thus often enabled to continue their education as a result of becoming financially independent. A somewhat different approach has been recommended in Australia by the Kirby Report (18) with its proposal for an allowance that recognises the trainee status of the recipients.

If, as recently suggested by the Minister of Education (25), New Zealand should be encouraging students to complete four years at secondary school, there could be strong arguments for further developments in the field of work exploration. Experience suggests that a number of students would benefit from remaining within the more protective environment of the secondary school while making their first foray into the employment world. On the other hand consideration should likewise be given to whether this option is viable and justified in technical institutes and community colleges either as an alternative or in addition to such opportunities in secondary schools. The American study, Co-operative Education, (26) gives many practical examples of successful experimental programmes of this nature in the United States and examples of training agreements and training plans. It also identifies a number of key issues that need to be addressed in considering such a policy and these are listed in Appendix D. In the United States The Unfinished Agenda has recommended that supervised, field based learning experiences be made available to all secondary students and that the role of industry, business and the community in vocational education should be expanded. Discussion questions 8 and 9 on page 5 suggest a possible New Zealand approach.

PERSONAL AND SOCIAL SKILLS - AIDS TO EMPLOYABILITY

Criticism by American employers that young people lack employability skills will strike a familiar chord in this country. Particular attention has been paid to this concern in The Unfinished Agenda which includes in its recommendations the proposal that, *"In addition to developing occupational skills, secondary vocational courses must develop self-esteem, positive attitudes towards work, safer work habits, job seeking skills and other general employability skills"* (27). The need for skill training in these areas in New Zealand has been recognised by the heavy emphasis placed on them in programmes organised under the Young Persons Training Programme. It is the clear expectation in America that such skills should be developed in schools and this point of view would also appear to accord with the aims envisaged for the core curriculum in New Zealand secondary schools which were considered earlier. Thus a careers module now forms part of fourth form social studies programmes in New Zealand secondary schools.

The significant difference appears to be the level of resource investment that has gone into the development of teaching and learning materials in this area in America. The major emphasis in this material is participatory education based on the assumption that 'able to do' rather than 'knowing about' is an essential characteristic of personal and social skills. This premise is well illustrated in the comprehensive student handbook, Opening Doors, A Practical Guide for Job Hunting (28). Beginning with a section devoted to developing self awareness and confidence and moving through decision making, planning the job search, communicating with employers and the job interview, to a final section dealing with planning for the future, the handbook offers a practical and down to earth teaching programme which would reinforce the relevance of many secondary school learning activities for many students. In New Zealand, by contrast, apart from the widely used pioneering work in this area, Careers Education for Secondary Schools (29), there is still very little teaching material prepared specifically for local requirements.

There is already clear evidence in New Zealand which is in keeping with much overseas experience, that it is the young, low skilled and poorly educated who dominate the unemployment register (30). It is also unfortunately true that such young people frequently appear to be trapped in a vicious circle from which, because of their lack of self confidence or motivation, they see no escape. In grappling with this problem American educators are emphasising the importance of developing personal and social skills as part of a confidence building and awareness raising programme within existing secondary school programmes. A practical example of the Colorado approach to this question is

described in Appendix E. The concept appears to offer a practical and cost effective method ot meeting the needs of many young people before they find themselves unable to gain employment, but cut off from the supportive environment which the school should provide. Discussion question 10 on page 6 considers this proposal in a New Zealand setting.

MINDING YOUR OWN BUSINESS - EDUCATION FOR ENTERPRISE

In spite of our national reputation for initiative, inventiveness and enterprise, we do not appear to place a high emphasis on encouraging youngstars to look forward to a possible future where they may be self employed or managing their own small business. At a recent seminar run by the Small Business Agency of the Development Finance Corporation, Martin Devlin of Massey University, in stressing that small businesses are vital to New Zealand's economic progress, pointed out that they account for 94% of all businesses in the country and provide 75% of all innovation. However, he claimed that their contribution is still to be adequately recognised and that there are virtually no courses in entrepreneurship or small business management as polytechnics are principally vocation oriented and universities mainly pre-occupied with teaching people to manage in corporate environments (31).

American research shows that, while people in all age groups start new businesses, 35% of those who do so are under the age of 30 (32). It is also relevant to note that vocational education students in America are much more likely to become self employed than are those from other curriculum areas.

Given the widespread recognition that small businesses provide the greatest opportunities for job creation and expansion and that self-employment is becoming increasingly common there seem to be sound reasons for considering the place of enterprise education in the New Zealand education system. Two projects currently being funded by the United States Department of Education are seeking to define the stages of development leading to the creation of an 'expert' entrepreneur. They have defined five separate stages of development that cover an educational process which extends from elementary school through adult education.

The PACE Programme (Programme for Acquiring Competence in Entrepreneurship) has been designed in three levels to recognise this concept of life long entrepreneurship education. The first level provides an introduction to entrepreneurship topics which allows students to become familiar with the concepts involved and to understand the creation and operation of a business. It is

planned for use in the intermediate and junior secondary schools as part of vocational programmes or career education courses. Level two provides an opportunity to learn about and try out entrepreneurship ideas enough to make a preliminary assessment of the possibilities of creating a future business. It is seen as suitable for senior secondary or post secondary students and for adults without previous knowledge or skills in this area. In the third level course, designed for adults and post secondary students, guidance and training are provided for starting and managing a business.

The programme consists of eighteen self-contained, individualised, competency based units which are repeated at each level in greater detail and with more specific functional applications. Separate student modules are provided for each unit at each level and the programme is supported by comprehensive teacher and resource guides. The potential of this programme for teaching basic skills in an applied setting and for developing business awareness and an understanding of career opportunities seems very considerable. Further information is provided in Appendix D.

When considering the significance of entrepreneurship education it is pertinent to note that, in the United Kingdom, the Enterprise Allowance Scheme has proved one of the most successful job creation schemes so far introduced. This scheme provides for a payment of an allowance of £50 per week for one year to any unemployed person who has £1,000 and wishes to establish a small business. From a modest start in 1983 as a pilot scheme with 5,000 grants made there are currently 50,000 participants in the scheme. However, it has recently been suggested that many of the Government's measures encouraging people to take up the self-employment option *"would be much more effective if young people going through our education and training system were at least made aware of the potential for employment, and the possibility of self-employment, within the small firms sector"* (33). In the article, Education for Enterprise from which this quotation is taken, Tom Moffat goes on to suggest *"the critical need for the development of an 'employer culture' to go alongside the almost universally adopted 'employee culture' to which we have all been subjected"* . He then asks the challenging question, *"Dare one suggest that there must be a very serious look at the school curriculum by everyone involved in education with a view to an introduction of entrepreneurial ideas and materials as they come along?"*

New Zealand schools already have some private sector involvement such as the Chambers of Commerce 'Young Enterprise' scheme, the share market game and ICL sponsored computer oriented business competitions and the Government has just

announced a self-employment option as part of its revised Job Opportunities Scheme. Dare one also suggest that there should be a place in the formal curriculum in New Zealand for the educational ideas explored in this section? The long term possibilities for job creation of a combination of vocational and entrepreneurial education with an enterprise allowance scheme could be very considerable and well worthy of serious consideration. Discussion question 11 on page 6 addresses this issue in a New Zealand setting and proposes ways in which the concept can be further investigated and developed.

TEACHER TRAINING

Considerable attention is being paid in America to teacher training and retraining. In this area four developments are worthy of comment.

PROJECT TRADE (Teacher Retraining and Directed Exchange) (34) has been piloted in Ohio. It seeks to develop a cost effective programme to retrain and update vocational teachers who have been out of their specialist field for a period of five years or more and to give industry an opportunity to have an input into the secondary curriculum. The scheme provides for the interchange of teachers with skilled workers from industry and commerce for a period of six to twelve weeks. A twenty hour pre-exchange briefing is provided for the participants who then meet weekly during the exchange to identify any problems and to adjust programmes. The scheme has been developed in full consultation with teacher unions, management and trade unions and has drawn favourable reaction from all parties. Further information about it will be available later in 1985.

In recognition of the need to assist teachers of vocational subjects to weave basic skills instruction into their subject areas more effectively - as part of their contribution to the overall development of students - the National Centre for Research in Vocational Education has recently developed six new performance based teacher education (PBTE) modules in its widely accepted Professional Teacher Education Module Series (35). These deal with basic reading skills, technical reading skills, writing skills, oral communication skills, mathematics skills and survival skills. Each module is a self contained instructional package that includes information about one of the critical teaching skills needed, opportunities to apply the skill both in training and in actual teaching situations, and a criterion referenced check list to assess teacher competency.

Career education is a rapidly growing professional discipline in America where the role and status of career counsellors in schools has always been more clearly recognised than that of their New Zealand careers adviser counterparts

where, in spite of the recommendations of the 1971 working party on Guidance in Secondary Schools (36), there has been little movement in the past decade towards the establishment of the full guidance network in all secondary schools. Nor has there been any upgrading of the careers adviser which remains a year to year appointment by the principal; lacks position of responsibility status; and has been subject to a high rate of turnover. The National Centre in Ohio has recently developed competency based career guidance modules covering five major skill areas for counsellors (37): guidance programme planning; support programmes providing resources or means for the planned activities to occur; implementation of programmes; continuation of programmes on a regular basis once they have been initiated; and evaluation of programmes, including making necessary modifications.

Finally, in the important area of developing relationships and working with industry and commerce the National Centre has produced a Linkers Tool Kit (38). This kit consists of three modules dealing respectively with developing a linkage plan (detailing a nine step approach); establishing linkages with business, industry, unions, government and the armed forces; and providing training programmes (in relation to the concept of co-operative education discussed earlier). It also provides additional material to assist teachers in this area.

These examples illustrate the type of support services that are being developed in America to assist teachers and instructors at the secondary and post secondary level. They contain many ideas and much material that could be of positive assistance in developing teaching materials and providing in-service training for educators in New Zealand secondary and tertiary institutions. Much further useful information is contained in two additional publications of the National Centre produced to accompany The Unfinished Agenda (39). A valuable New Zealand source and commentary on American developments in vocational education, with special emphasis on teacher preparation, is provided in Nick Zepke's, In Pursuit of Excellence, based on his recent experiences as a Fulbright-Hayes Fellow (40).

There has been much concern expressed over a long period of time by both teachers and business leaders at the inadequate recognition, training and time allowances provided for careers advisers in New Zealand secondary schools. More recently with the development of the concepts of work exploration and transition education similar concerns have been expressed by those involved in these areas. The particular training needs of these teachers plus those involved in vocational education at both secondary and tertiary levels are addressed in Discussion Questions 12 and 13 on page 6.

CONCLUSION

At their meeting in November 1984, OECD Ministers of Education called for the Organisation to give attention in its future work to "*the interaction between education and training and structural change in the economy and society - with particular reference to developing the capacity of individuals for continuous learning, creativity and self reliance and thereby promoting their quality and flexibility in the labour market*". They also called for work on "*flexible combinations of education, training and work experience*" including "*updating the content and methods of vocational and technical qualifications; improved relations between educational institutions and industry*" and on "*the response of education to rapid technological development*" (41).

Concerns about these matters in the United Kingdom prompted the research report, Competence and Competition referred to earlier (15). This report described how "*key elements in the vocational education and training policies in the Federal Republic of Germany, the United States and Japan underpin their economic competitiveness, and how they support their effective response to changing markets and a rapidly changing economic environment*" (42). A New Zealand survey of informed opinion is currently being carried out jointly by the Vocational Training Council and the New Zealand Planning Council with the support of the Government to identify key issues relating to education and the economy to assist in the development of future policy in this area (43). Under the auspices of the OECD some fourteen other countries are involved in a similar exercise.

There is now virtually universal acceptance in OECD countries that the vocational education and training required for young people for the future must help to produce well adjusted adults with flexible attitudes, sound basic skills, broad based training and a commitment to lifelong learning. The question that must be decided is where and how that vocational education and training should take place - within or outside the educational institutions; in partnership with industry or by industry acting independently; and what share of the financial responsibility should be borne by those who benefit - employers, individuals and the nation.

In such circumstances education has, perforce, a centre stage role with the prospect of criticism for the actions taken or not taken. It seems significant, for instance, that a Gallup Poll in the United States in 1984 showed that 83% of people believed that vocational education should be compulsory for students not planning to go to university whereas three years earlier only 64% held this view. And 37% (up from 33% in 1981) felt it should even be compulsory for those intending to go to university. In New Zealand the removal of University Entrance from Form Six provides a new opportunity for educators which they have not previously had. **Many of the changes needed cannot be legislated for, they must be nurtured by innovative teachers at the point of most effective action - the classroom, the laboratory, the workshop. But the chance to use this opportunity will be shortlived and failure to do so will almost certainly see the initiative taken up by others.**

The question raised at the Atlanta seminar by Dr Willard Daggett as to what business education is in, seems as appropriate to New Zealand as to New York. His concern was that, there, education seemed too often to be in the business of schools and institutions rather than in the real business of educating students. He emphasised the need for American schools and colleges to ensure that they remained relevant to the needs of students who are caught in the grip of the 'accelerating technological thrust' which is transforming American society. In similar vein in the United Kingdom, the Chairman of the Manpower Services Commission has recently suggested that, "*Managing change is possibly the most important education and training skill of this century. Likewise, resistance to change could be the major problem*" (44). While recognising the many positive and innovative developments already taking place in New Zealand schools and tertiary institutions, the intention of this Discussion Paper is to provoke similar considerations of relevance in New Zealand and to provide practical examples and suggestions for change designed to maintain that relevance into the future.

REFERENCES AND NOTES

Most of the printed material referred to in this summary is contained in the Vocational Training Council Library.

(1) Training and Employment, Papers prepared for the Employment Promotion Conference, March 1985 by the Vocational Training Council, Wellington

(2) Skills for Young People, A Discussion Paper on Transition Education and Training from the Ministers of Education, Employment and Maori Affairs, Government Printer, Wellington, July 1985, ISBN 0-477-03407-1

(3) Report to the Vocational Training Council on a Study Tour to Europe and Singapore, May-July 1983, Wood, Derek E, March 1984

In regard to youth and transition education and training this Report commented on developments in the Republic of Ireland, England, Sweden, Germany and Singapore. It also included information gleaned from the Organisation for Economic Co-operation and Development (OECD) in Paris, the European Centre for the Development of Vocational Training (CEDEFOP) in Berlin, and the International Labour Organisatin (ILO) in Geneva.

-and-

The Emerging Role of Vocational Training in New Zealand, Wood Derek E, An address delivered at a Conference-Workshop on Alternatives to Traditional Employment at Massey University, September 1984

(4) Technical and Vocational Education, UNESCO Information Bulletin, Number 5, Paris, 1984, ISSN - 0293.1976, Page 1

(5) A Review of the Core Curriculum in Schools, Department of Education, Wellington 1984, Pages 20-21

The Review examines the core curriculum, the need for it, the present position in schools and the reasons for a review. It then considers the aims of education and the purposes of schools, the curriculum issues facing schools, bi-cultural and multi-cultural issues and the ways in which schools have responded to change.

It concludes with proposals for a revised core curriculum and an examination of the implications for schools.

(6) The Unfinished Agenda, the Report of the National Commission on Secondary Vocational Education sponsored by the National Centre for Research in Vocational Education, The Ohio State University, 1985 and funded by the United States Department of Education, Office of Vocaticnal and Adult Education.

The Report presents the case for vocational education, examines its purposes, considers its role as an educational process, examines the challenges it faces to fulfill these purposes and roles, and makes firm recommendations for the future.

(7) School Leaver Documentation, Department of Education, Memorandum to Secondary School Principals (36/20/54), 4 March 1985

(8) A Nation at Risk: The Imperative for Educational Reform, National Commission on Excellence, United States Department of Education, April 1983

(9) American Graduation Procedures

High School: Students who complete four years of secondary education (Grades 9 to 12) and have achieved pass grades in the requisite number of compulsory and optional subjects qualify for graduation and receive a high school diploma or graduation certificate. The average age for this is 18 years.

Although regulations vary from State to State a typical graduation course over the four year period would include 18 to 22 required credits of which three of four must be English, normally two mathematics, one or two science, two or three social studies (including American History), one physical education and a number of additional compulsory subjects (possibly foreign language) and optional credits (which normally include vocational subjects).

College: The majority of American degree awarding institutions are four year colleges where, as in high school, graduation is gained by amassing a series of credits in compulsory, pre-requisite and optional subjects over that period. Normally a very wide range of academic, cultural and vocational subjects is offered.

(10) The New Technical and Vocational Education Initiative (NTVEI)

(a) TVEI Review 1984, Manpower Services Commission (MSC), June 1984

This Review covers the launch and early progress of this initiative by the MSC during its first ten months. It provides examples of schemes and projects developed during that period and discusses proposals for the extension of the initiative.

(b) VTC 84/58 (f), A Report by the Director to the Vocational Training Council following a visit to a NTVEI project and discussion in the United Kingdom in June 1984

(11) Training for Skill Ownership

(a) Training for Skill Ownership (Learning to Take it With You), Hayes, C et al, Institute of Manpower Studies Report Number 68, Prepared for the Manpower Services Commission, 1983 ISBN 0-904744-61-2

(b) VTC 84/58 (d), A Report by the Director to the Vocational Training Council, August 1984, summarising this publication and drawing on discussions with Chris Hayes and other members of the OECD Consultative Group on Vocational Training at their meeting in Sheffield in June 1984

(12) Youth Training Scheme (YTS): Two features of the YTS that are worthy of note are:

(a) Managing Agents: Any kind of organisation or consortium can apply to become a local or national managing agent for the YTS and can be accepted provided it satisfies criteria laid down by the MSC relating to organisational and training capability and financial stability. cf STEPS in New Zealand (1983)

(b) Training Allowances: The Trade Union Congress and the Confederation of British Industry are party to the MSC decision on allowances but there is opposition from many unions and some politicians to the level of the allowances (and in some cases to the whole scheme with a preference among political opponents for a school leaving age of 18). The MSC has left the way open for separate unions to negotiate with employers for a higher rate to be paid to trainees (subsidised by the employers where such agreements are reached)

(13) Education and Training for Young People, Her Majesty's Stationery Office, London, April 1985

This White Paper outlines the new Government initiatives on the work-related education and training of young people between the ages of 14 and 18. It states the Government's commitment to instituting a coherent approach to the development of vocational education and training which has seven main thrusts. These are: to develop an information base on the supply of and demand for skills; to improve educational foundations; to ensure that further and higher educational and professional institutions are geared to today's needs; to develop adult education and training both full and part-time; to encourage responsiveness from educational providers to the interests of employers and other consumers; to secure competence of teachers, lecturers, trainers and tutors; and to provide advice and guidance which must be accessible to all, individuals and employers alike.

In referring to Competence and Competition (15) the White Paper states that this Report underlines the Government's view that vocational education and training are not marginal activities but are central to economic growth and prosperity. The White Paper discusses recent developments both nationally and internationally and sets out the Government's proposals for action.

(14) Better Schools, Her Majesty's Stationery Office, London, March 1985

This White Paper states that the Government's principal aims are to raise standards at all levels of ability and, since education is an investment in the nation's future, to secure the best possible return from the resources which are found for it. It summarises the present situation and the progress made over the past thirty years and then looks at action needed in all sections of education. These are summarised under four policy areas:

(a) To secure greater clarity about the objectives and content of the curriculum

(b) To reform the examinations system and improve assessment so that they promote effectively the objectives of the curriculum, the achievements of pupils, and the recording of those achievements

(c) To improve the professional effectiveness of teachers and the management of the teaching force

(d) To reform school government and to harness more fully the contribution which can be made to good school education by parents, employers and others outside the education service

The Paper then sets out the action which the Government intends to take in each of these areas in conjunction with the other partners in the education service and examines the resource implications of these proposals. The Paper concludes with an examination of the ways in which the proposals are linked with other policies; a discussion of monitoring steps to be taken; and a comment about the need for immediate action.

(15) Competence and Competition, Training and Education in the Federal Republic of Germany, the United States and Japan, Christopher Hayes et al, Institute of Manpower Studies for the National Economic Development Council and the Manpower Services Commission, London, United Kingdom, 1984, ISBN 0-7292-0652-1

This Report described how key elements in the vocational education and training policies in these three countries underpin their economic competitiveness and how they support their effective response to changing markets and a rapidly changing economic environment. A major and most significant finding of the study was, "that every single body of opinion in each of the three countries believes that economic success would have been impossible without a strongly sustained effort in vocational education and training". The purpose of the study was, "to provide pointers or options for those who make policy or who have to take decisions in the United Kingdom".

(16) Dual System is the German system of vocational education and training covering over 400 regulated training occupations in which trainees spend normally four days per week in company training workshops and one day per week in vocational schools. While the educational component of the training is the responsibility of the state governments the industry component is controlled by employers and unions.

The concept of apprenticeship in West Germany is extremely broad embracing, as it does, both commercial and business occupations. An interesting development with the increasing unemployment among new university graduates (doubled in the past five years to reach 4.6%) is an increased demand by students from the academic secondary schools (who have matriculated with the 'arbitur' certificate) for places in the Dual System prior to university study to ensure that they have both work experience and academic qualifications prior to entering the labour market. In view of increasing youth unemployment another new trend developed in 1984 when 10% of the graduates of the Dual System were unemployed. Many accepted twenty hours per week paid employment in companies and twenty hours unpaid training. They were well satisfied with this arrangement as they earned more than they had done as trainees in the Dual System and also enhanced their employment opportunities.

(17) Institutional Trade Training, Report by a Working Party of the Commonwealth State Apprenticeship Committee issued by the Australian Department of Employment and Industrial Relations, March 1984

This Report examines the issue of institutional trade training against the background of the current trade training system; provides a summary of recent developments in institutional training in Australia and overseas; examines a variety of approaches to institutional training and work experience; and considers other related issues and possible future directions.

(18) Report of the Committee of Enquiry into Labour Market Programmes, Australian Government Publishing Service, Canberra, Australia, 1985, ISBN 0-644-03456-4

This comprehensive tripartite report (known as the Kirby Report) assessed the extent to which the current range of training and work experience programmes in Australia meets the labour market objectives of the present Government and made recommendations on necessary improvements. It covered the changing labour market, existing education, training and labour market programmes, and looked at and made recommendations on such major topics as the labour market, planning, youth traineeships, trade training, adult training and retraining, wage subsidies, and community programmes.

-And-

VTC 85/1(a) Australian Developments in Training and Employment Promotion, Peters, G M and Wood, D E, 28 February 1985

A report on a visit to Australia in February 1985 by the Chairman and Director, Vocational Training Council.

(19) (a) Workers With a Recognised Qualification as a Proportion of the Population: New Zealand Census 1981, Volume 6

Forty-five per cent of the workforce had three years secondary schooling. Relative figures for a number of recently surveyed countries are Germany 66%; United States 78%; Japan 60%; United Kingdom 50%: Competence and Competition [15], Page 83, Table 6.6

(b) Percentage of Population in Age Ranges 16-24 Participating in Education, 1982: New Zealand Department of Education Statistics, 1983

Relative figures for the above countries were: Germany (1980) 45%; United States 73%; Japan (1982) 54%; United Kingdom 32-40%. Competence and Competition [15], Page 82, Table 6.1

This statistical data is based upon the International Standard Classification of Education as used by UNESCO. This was developed to compile and present educational statistics on an internationally comparable basis.

(20) First Report of the Committee of Inquiry into Curriculum, Assessment, and Qualifications in Forms 5 to 7, Implications of the Removal of the University Entrance Examination from Form 6, Department of Education, Wellington, May 1985

(21) Assessment in Form 7, Report of a Working Party of the Universities Entrance Board as amended and adopted at the Board meeting of 29-30 May 1985

In referring to its expectation "that the great majority of those students who successfully complete a Form 7 year should then be qualified to enter a university" the Board has made three significant statements:

(a) "That the Board should play a leading role in developing the syllabuses for approved Form 7 courses"

(b) "That any qualification standard that it (the UE Board) seeks to establish is within the reach of that majority"

(c) "That co-ordination is maintained between course requirements at Forms 5 and 6 and with what is presented at Form 7"

-and-

Home Economics Forms 1 to 7 in Education Gazette, Vol 64, Number 10, 31 May 1985.

In the light of the foregoing statement from the University Entrance Board Working Party, the following extract illustrates the importance of establishing a satisfactory and non-restrictive status for all Form 7 subjects:

> "In 1982 the national syllabus revision committee developed a draft home economics syllabus for the Sixth Form Certificate. The Committee also considers that home economics courses in the applied sciences and the arts should be available through to the seventh form to offer a challenge and to extend Form 7 students who may be attracted to such a course"

(22) Programme Directions for Occupational Education in New York State, A Position Paper, State Education Department, New York, September 1984

-and-

Strategic Vision and Planning: Keys to Educational Improvement, Daggett, Willard R, Occasional Paper Number 100, National Centre for Research in Vocational Education, Ohio, 1984

These two papers consider the need for change and the processes for addressing change. They make recommendations for the future and suggest an action plan for establishing new directions.

(23) Megatrends, Naisbitt John, Macdonald and Co and Futura, London, 1984, ISBN 0-7088-2508-7

(24) Co-operative Education, (Note 26 Below Refers)

(25) Marshall, Hon C R, Minister of Education, speaking at the launching of the Government Discussion Paper, Skills for Young People, in the Beehive Theatrette, 10 July 1985

(26) Co-operative Education, Humbert J T and Wolosszyk, C A, National Centre for Research in Vocational Education, Columbus Ohio, 1983

This Report examines the benefits to students and employers of co-operative education, considers its essential elements and the necessary organisational features for its operation and concludes with an identification of the key issues and a series of recommendations. It has extensive factual appendices of examples. Further information relating to a practical handbook for vocational co-operative educators in working with business and the community is also available from the Vocational Training Council Library.

(27) The Unfinished Agenda, Page 26

(28) Opening Doors, A Practical Guide for Job Hunting, Goodman, Jane, Hoppin, Judith M and Kent, Ronald H, Continuum Centre, Oakland University, Michigan, 1984

This student workbook is accompanied by a teacher's guide with the same title which provides a wide range of practical tasks for group activities designed to develop confidence and skills and suggests how to adapt the workbook for working with groups with special needs.

(29) Careers Education for Secondary Schools, Duley C J and Roberts, R J, Macmillan and Co, Auckland 1980

(30) A Study of the Long Term Unemployed, Department of Labour, Wellington, July 1984

(31) Devlin, Martin in National Business Review, 22 July 1985, Pages 48 to 49

(32) Small Business in America, National Federation of Independent Business Research and Education Foundation, 1981 quoted in Entrepreneurship Education, Networks that Work, The National Centre for Research in Vocational Education, 1960 Kenny Road, Columbus, Ohio, United States of America

(33) Education for Enterprise, Moffat, Tom, BACIE Journal, Pages 40 to 42, March/April 1985

(34) TRADE (Teacher Retraining and Directed Exchange). Additional information concerning this project is available from Barbara L Hollensen, Director of Curriculum and Programme Development, Butler County Joint Vocational School, 3603 Hamilton Middletown Road, Hamilton, Ohio 45011, United States of America

(35) Performance Based Teacher Education (PBTE) is a concept that has been widely adopted in and has had a considerable impact on vocational teacher education programmes. In an evaluation of this programme strengths identified by its users were that its materials are self-contained, modular, performance based and individualised and that they provide for increased accountability of the tutor. Weaknesses identified by some users were that PBTE reduces individuality, places limited emphasis on the affective domain and has the potential for misuse. Most respondents felt that the strengths far outweighed the weaknesses. Sample material is available in the Vocational Training Council Library.

(36) Guidance in Secondary Schools, Report of a Working Party, Department of Education, Wellington 1971

(37) What's New in Guidance Personnel Professional Development, Bell and Howell Company Publications Products, Old Mansfield Road, Wooster, Ohio 44691-9050, United States of America.

(38) Linker's Tool Kit, American Association for Vocational Instructional Materials, The National Institute for Instructional Materials, 120 Driftmier Engineering Centre, Athens, Georgia 30602, United States of America.

(39) The Unfinished Agenda: Implementation Guide and The Unfinished Agenda: Relevant Research, National Centre for Research in Vocational Education, Ohio State University, 1985.

(40) In Pursuit of Excellence, A Personal View of Vocational Education in the United States, Zeoke, Nick, Occasional Paper Number 24 of the Tutor Training Unit for New Zealand Technical Institutes, Central Institute of Technology, Lower Hutt, New Zealand, April 1985, ISSN 0111-6363

(41) Organisation for Economic Co-operation and Development, Reference Press/A/(84) 64 Annexe quoted in ED (84) 15

(42) Competence and Competition, Introduction, Page 4

(43) The New Zealand survey of Education and the Economy will consult key employer and union representatives in both the public and private sectors for their personal views on a series of questions relating to:

(a) The means by which economic success is achieved

(b) How education supports economic performance

(c) What the specific aims of education should be

(d) What the key inputs are which will ensure that those educational aims are attained

(e) What the key achievements are by which successful educational attainments may be recognised

(f) Continuing education for employees

(g) Availability of information on the education sector

Following completion of the interviews the results will be analysed, processed and a report published on the findings

(44) Managing Change in Education and Training, Nicholson, Bryan, BACIE Journal, March/April 1985, pages 31 to 35

Appendix A

TRAINING AND EMPLOYMENT (1)

A Vocational Training Council perspective of the needs of young people

Schools and Transition

The Council believes that it is necessary to rethink the traditional attitudes concerning the transiton from school to working life.

In particular the Council sees the need for:

- The integration within the secondary school curriculum of subjects that help to ensure that all young people are equipped with skills that are relevant for working life

- The provision of a permanent bridge programme between school and working life for those school leavers who require it

To this end the Council endorses the thrust of the Interim Report of the Government Committee on Transition Education.

Recommendations

(3) That adequate provision for vocational education [as previously defined] and transition education for **all** pupils be included in the current reviews of the senior secondary school curriculum

(4) That school leavers who require pre vocational training should be entitled to enrol for this without registering as unemployed

(5) That pilot school leaver training programmes should be developed immediately with a view to establishing a national framework in due course

(6) That the relationship between secondary schools and technical institutes be reviewed to provide greater course flexibility

Young Workers

The Council emphasises that, by international standards, there is a serious lack of vocational skills and training amongst young workers in New Zealand. It believes that there is therefore, a definite need for the conversion of unskilled and semi-skilled young people into prospective workers with marketable skills.

Recommendations

(7) That a comprehensive youth training policy be developed to cater for 15-19 year olds who are unemployed, inadequately trained or unsuited to their present employment

(8) That the training needs of those who conduct such programmes should be identified and appropriate training provided

-Extract from Summary Statement, Pages 1 and 2-

Appendix B

A GENERAL EDUCATION - REINFORCING ITS IMPORTANCE

The following additional detail supplements the information provided in the text:

(a) English: The Individual Language Arts (ILA) programme is being developed in Georgia for national use from a model piloted in New Jersey. The Project Director is Barbara Rous, ILA Project Director, 501 Central Avenue, Dalton, Georgia 30720, UNITED STATES OF AMERICA.

The Vocational Training Council Library contains the project manual (Diagnosis, Prescription, Evaluation), a Writing Activities Resource Manual, High School Basic Skills (Writing Objectives and Reading Clusters), and a general brochure explaining ILA.

(b) Mathematics: The Systematic Teaching and Measuring Mathematics (STAMM) project originated in Colorado and is being developed for national use in Georgia in association with the Vocational Applied Mathematics (VAM) project. The Project Director is Nancy Williams, Project Director, STAMM/VAM, Oconee County Schools, Athens, Georgia, UNITED STATES OF AMERICA. The Vocational Training Council Library contains samples of student workbooks in Vocational Applied Mathematics in Electronics, Graphic Arts and Industrial Arts; further details of STAMM; the High School Basic Skills Mathematics clusters; and a draft of the VAM Teachers Manual.

(c) Science: The Principles of Technology project has been developed by the Centre for Occupational Research and Development (CORD) in association with the Agency for Instructional Technology (AIT). Thirty-three states are participating agencies indicating both a high level of support nationally and a genuine perceived need. A brochure with further details plus sample instructional materials are contained in the Vocational Training Council Library and a preview of the video materials is being supplied from America. The presenter at the seminar who is a valuable contact with links with both CORD and AIT is Michael Walker, Georgia Department of Education, 1752 Twin Towers East, Capitol Square, Atlanta, Georgia 30334, UNITED STATES OF AMERICA.

The direct contacts are:

AIT: John E Nelson. Manager of International Marketing, Agency for Instructional Technology, Box A, Bloomington, Indiana 47402, UNITED STATES OF AMERICA

CORD: Casandra B Jordan, Research Associate, Centre for Occupational Research and Development, 601 C Lake Air Drive, Waco, Texas 76710, UNITED STATES OF AMERICA

Appendix C

SCHOOLS MUST CHANGE - THE NEW YORK EXPERIENCE

Core Competencies: The list of core competencies developed by the Futuring Committees is included as Attachment One to this Appendix. To allow students to acquire broad transferable skills and make decisions about specialised occupations at an appropriate time the Futuring Committees recommended the development of an intergrated and co-ordinated programme to connect repetitive elements currently offered in separate subject areas while maintaining the unique elements of those occupational subjects.

Action Plan: A carefully staged implementation plan has been developed spread over the period to 1992. Some areas of particular interest to New Zealand are:

Grades 7 and 8 (Ages 13 and 14)

Once pupils have acquired the foundation skills, as part of their elementary school programme, they will be provided with opportunities for developing basic life skills, career awareness, and job readiness skills through required studies in Home and Career Skills and in Technology.

(a) Home and Career Skills

The course is designed to prepare students to meet their adult responsibilities as a member of a family, a consumer, a home manager and a wage earner. Since youth begin to assume these responsibilities in their early teens, the programme is designed to be offered in the early secondary school, which is an especially important time either to influence a student to complete high school or to help prepare students for adult responsibilities.

Through the use of hands-on, applied learning experiences, students will:

- develop skills which lead to effective home and workplace decisions
- learn concepts and skills basic to home and family responsibilities
- develop personal skills which will enhance their employment potential

Instruction is organised by the three student objectives listed above and by four skill areas: personal skills, consumer skills, career and workplace skills, and relationship skills. Competencies developed in a variety of subjects, including language arts, social studies, mathematics and science will serve as a foundation for the Home and Career Skills programme. Therefore, considerable co-ordination with specialists in these subject areas in the development of State syllabi and local delivery of instruction is essential. Although the Home and Career Skills curriculum must be developed in close co-operation with the school's guidance programme, home economics instructors will be the primary instructors of the course.

(b) Technology

Beginning with the class of 1992, by the completion of Grade 8 all students will also be required to complete a minimum of one unit of instruction in Technology. The programme shifts emphasis of the traditional industrial arts curriculum from learning to use tools and make products from woods, plastics and metals to understanding systems of technology in the home and workplace. Systems of technology in fields such as production, transportation, construction, communications and agriculture will be emphasised.

The technology programme is designed to help students meet the following objectives:

- understand, use and control technology
- use tools and equipment to build and maintain technological devices and machines
- select, prepare for, and enter training programmes in existing and emerging occupations
- develop an awareness of the impact of technology on their personal and working lives

Instruction in the technology programme will continue the emphasis on making tangible products and using hands-on experiences in shops and laboratories. Industrial arts teachers will be the primary instructors in the technology programme.

A significant portion of the technology programme will provide experience in the designing and construction of elementary technology devices, and include projects and experiments to be performed in response to specified problem situations. Through experiment, construction and problem solving activities, students will become aware of the basic elements common to all technological systems - input, comparison, adjustment, process, control, output and feedback - and of ways in which technological systems interact.

Consideration of the economics of technology, intended and unintended effects, and outcomes of technology will help students understand how technology affects people and the environment in a broader sense, and the role that government and society should assume in maintaining control.

Grades 9 and 10 (Ages 15 and 16)

Beginning in 1992 students following an occupational education sequence must include a study in Introduction to Occupations. The course content and competencies will focus on occupational preparation for broad career options. Two compulsory units in all courses will be Personal Resource Management and the Working Citizen and there will be a number of optional modules developed around and relating to the business, health, service, trade, technical, technology and agriculture programmes.

The following skills will be integrated into modules in the Introduction to Occupations curriculum objectives and instructional strategies: human relations/leadership, safety/work habits, mathematics/science, career options, use of technology, decisionmaking, problem solving and communications.

Grades 11 and 12 (Ages 17 and 18)

In these grades the occupational education programme will permit students to concentrate on one or more selected occupational clusters, and to develop entry-level job skills. A great deal of flexibility will be allowed to schools in developing programmes but there will also be a major emphasis on an inter-disciplinary approach.

An important aspect of the new approach will be an increased emphasis on accountability so that examinations will be introduced to measure competency in job readiness skills as well as occupational preparation.

Summary of New Directions

In summary, the new occupational education programme will promote better student outcomes in several ways:

* A common set (core) of skills and knowledge has been identified that are believed essential to all individuals in their personal, family, home, community and work responsibilities. Most of these core skills will be obtainable in elementary general education, or in a new junior high school programme in which all students will take three-quarters unit in Home and Career Skills and one unit in Technology by the completion of Grade 9. The technology course will introduce students to modern technology, to the resources needed for technological development, to ways in which technology helps to solve problems and enhance our living standards, to a variety of technological systems and their operation, and to the effects of technology on individuals and society. The Home and Career Skills programme will emphasise personal, consumer, and relationship skills needed to enhance the students' abilitites to meet their present and future responsibilities in the home and in the workplace

* A broad range of knowledge and skills common to all areas of home/family and employment will be provided to occupational students at the ninth and tenth grade levels through instruction in Introduction to Occupations

* Specialised occupational education will usually be deferred until the eleventh and twelfth grades, thereby keeping career options open until students have thoroughly explored their full implications. Specialised programmes will be co-ordinated with earlier programmes and required for completing an occupational sequence

* All areas of occupational education will be updated and redesigned to afford maximum preparation for anticipated job demands, as well as to permit broad career alternatives

* Achievement standards and accountability will be strengthened through new curriculum materials and a Statewide testing programme.

The new occupational education programme attempts to maintain the hands-on training that has been a key element of occupational and practical arts programmes in New York State. The new programme will continue the specialised training that is needed for entry into the world of work, but will also be expanded to include the development of broad transferable skills in students which enable them not only to enter but to progress in the world of work.

Major Contact

Further details on this programme are available from the presenter at the Atlanta seminar, Dr Willard R Daggett, Director, Division of Occupational Education Programmes, 99 Washington Avenue, Albany, New York 12234, UNITED STATES OF AMERICA.

Attachment One

CORE COMPETENCIES

I PERSONAL DEVELOPMENT

(1) Personal Skills
(2) Self-Concept
(3) Personal Appearance
(4) Health
(5) Use of Leisure Time
(6) Adaptability
(7) Decision-Making
(8) Problem Solving
(9) Interpersonal Relations
(10) Social Skills
(11) Participation and Interaction with Groups and Organisations
(12) Leadership
(13) Career Awareness/Exploration/Information
(14) Goal Setting/Career and Education Planning
(15) Job Application
(16) Job Retention, Including Work Habits
(17) Job Progression and Change
(18) Employer and Employee Relations

II SOCIAL SYSTEMS

(1) Economic Concepts
(2) Political Literacy
(3) Legal Literacy

III INFORMATION SKILLS

(1) Verbal Communication
(2) Non-Verbal Communication
(3) Listening
(4) Written Communication
(5) Reading Comprehension
(6) Computation
(7) Information Retrieval
(8) Dictating Communication Skills
(9) Keyboarding Skills
(10) Use of Information Systems

IV RESOURCE MANAGEMENT

(1) Money
(2) Time
(3) Natural Resources
(4) Human Resources
(5) Consumer Skills

V TECHNOLOGY

(1) Concepts of Technology
(2) Developing Technologies
(3) Applications of Current and Emerging Technologies
(4) Use of Basic Tools and Equipment
(5) Work-Related Health and Safety
(6) Personal Safety

Appendix D

CO-OPERATIVE EDUCATION - ISSUES TO CONSIDER

The translation of work exploration in a New Zealand setting from ad hoc arrangements involving a small number of schools to a widely accepted programme required extensive discussions with the Employers Federation and the Federation of Labour which resulted in the issue of a special Department of Education circular (1981/31) detailing provisions for the operation and oversight of the scheme.

As stated in the text of this Report the American scheme goes much further and raises policy issues whose immediate relevance to New Zealand may not be apparent. If, however, the entry of young people to the workforce in a fully productive capacity in New Zealand is to be delayed and an increased partnership between industry/business and education is to be sought, whether through extended institution based work exploration or through adoption of the traineeship model, then a New Zealand version of these issues and recommendations will assume considerable importance.

Extract from Co-operative Education (21), Pages 23 to 26

- **Issue: Are the additional costs of operating co-operative education programmes justified?**

  Whereas some studies have indicated that co-operative education programmes need not cost more than classroom programmes, others have documented increased costs for co-operative education programmes. Any decision regarding co-operative education programming has to consider the benefits of the programme to the educational institution, employer, and individual participant. Clearly, the literature documents significant benefits for educational agencies, employers, and students.

  Recommendation: The additional funding required to support co-operative education should be provided

  Since co-operative education programmes provide benefits unobtainable through other programmes, it is recommended that local, state, and federal educational expenditures be directed to the expansion of co-operative education programming.

- **Issue: Should an organised programme of professional development be required for certification of co-operative education co-ordinators?**

  Numerous studies have detailed the variety of highly developed skills required of co-operative education co-ordinators. Organised programmes of pre-service and inservice instruction (including field-based experiences) for preparing co-ordinators and maintaining their skills are not widely available. Adequate training for co-ordinators is of concern.

Recommendation: Organised professional development programmes should be made available for co-operative education co-ordinators, and co-ordinators should be required to participate in such programmes

It is recommended that co-operative education co-ordinators be required to participate in a programme of professional development, including pre-service field-based training. The success of co-operative education programmes is largely dependent on the competence of co-ordinators. Inservice training should be designed and implemented so that co-ordinators are continually updated on the legal aspects of employment, on technological advances, and on innovative instructional strategies.

- **Issue: What advisory role should employers have in co-operative education programming?**

While several publications have identified the functions of advisory committees in co-operative education, little agreement exists among employers as to their legitimate advisory functions. Some studies have indicated an increased need for business and industry participation, whereas other studies have shown that employers view curriculum and programmatic decisions to be the sole function of the educational agency.

Recommendation: The role of advisory committees should be expanded to include all phases of planning and implementing co-operative education programmes

A programme advisory committee provides for two-way communication between the co-operative education co-ordinator and representatives from the employment community. The research indicates employer willingness to participate in planning and implementing co-operative education programmes. Educational agencies must increase the participation of the total community in determining goals, needs and programmes. Co-operative education can become an important part of the effort to smooth the transition from school to work.

- **Issue: Should credit be awarded to co-operative education students for on-the-job experience?**

Awarding credit in secondary co-operative vocational education programmes for this experience is widely accepted. Co-operative education students in post-secondary institutions, however, sometimes do no receive credit for work experience. The validity of such credit is questioned, based on the view that experiential learning lacks academic rigor.

Recommendation: Credit should be awarded for co-operative education experiences

Co-operative education combines classroom study with related work experience and thus integrates education and work. It is recommended that credit be awarded for formally organised, structured, and supervised co-operative education programmes at both the secondary and post-secondary levels.

- **Issue: Should co-operative education programmes utilise training plans?**

The use of a written training agreement outlining general responsibilities of each party to the co-operative education programme seems to have almost universal acceptance. The use of training plans that detail an individualised programme of instruction, however, is less accepted.

Recommendation: Training plans should be a required component of co-operative education programming

Research has consistently verified the advisability of a structured programme of instruction for co-operative education programmes. The training plan, used in conjunction with the training agreement, details specific duties and tasks to be learned at the training station and in the school programme. The training plan also outlines suggested time frames for the accomplishment of identified learning objectives, clearly identifies the instructional roles of the employer and school, and clearly explains the concept of co-operative education programming to all parties.

- **Issue: What amount and type of related instruction should be provided in co-operative education programmes?**

Whereas related academic and vocational instruction is a required component of co-operative education programming, there does not seem to be a consensus as to the amount of time required in related vocational classes. State educational agency guidelines differ in regard to time requirements for related vocational instruction. Disagreement also exists as to the type of related instruction to be provided. Should the related instruction primarily be content-specific to an occupational area, or should it include basic work adjustment and employability skills training?

Recommendation: A minimum number of courses and clock hours should be established by state departments of education and educational institutions to fulfill the related academic and vocational education programme requirements

The related instructional programme, in all cases, must be of sufficient duration to develop the necessary competencies to prepare students for employment. Instruction should focus on identifying needs students have in common as workers (general related instruction). Suggestions for scheduling related instruction follow:

- More time should be devoted to general related instruction (that is, attitudes, employer/employee relations, employabilities skills, and so forth) than has been the practice
- Specific related instruction should be included throughout the programme
- Scheduling should remain flexible to meet students' changing needs

- **Issue: How much time should be allocated for the supervision of students?**

The amount of business and industry visitation time required for effective co-ordination of students varies greatly among programme areas and states. Requirements for extended contract time (beyond the school year) and released time for co-ordinators have not been adequately researched. Several studies have determined that lack of co-ordination time and high teacher-student ratios are major concerns of co-ordinators. However, opinions of administrators and employers differ as to the amount of supervision required for adequately ensuring students' educational progress and the protection of their health, safety, and welfare.

Recommendation: Additional research should be completed to determine the amount of extended contract time and released time required for co-operative education co-ordinators

Future research should explore the types of co-ordination tasks that occur beyond the regular school schedule (day and year) and the time needed to perform the administration, co-ordination, guidance, professional development, and public relations duties required of co-ordinators (based on student enrolment).

- **Issue: What is the role of co-operative education in expanding career options for females and special populations?**

Little evidence is available as to whether co-operative education programmes have adequately addressed the special needs of population such as (1) females; (2) disadvantaged, handicapped, and gifted and talented students; (3) ethnic and minority group members; and (4) students with limited English-speaking skills.

Recommendation: Additional efforts should be made in co-operative education programmes to serve special populations

In the absence of evidence to the contrary, it is probable that co-operative education programmes do not adequately address the needs of special populations. This is probably due to a lack of co-ordinator training related to the unique characteristics and special needs of these individuals. Accordingly, it is recommended that co-ordinator training in serving the special needs of these students be included in both pre-service and in-service training programmes.

- **Issue: To what extent should public relations efforts be used to promote co-operative education programming?**

The need to promote co-operative education programmes has been well documented. Several studies have also determined that public relations activities are perceived to be an important aspect of co-ordination.

Recommendation: **Additional efforts should be made to promote co-operative education programmes and public relations activities should be used to do so**

Research indicates that employers are supportive of co-operative education when they become involved with the programme. Accordingly, it is recommended that additional efforts be made to promote the programme among employers. Increased public relations efforts can also promote understanding of such programmes among students, parents, and educators.

Co-operative education programmes continue to make a real contribution to the acquisition of employability skills. Thoughtful consideration of the issues raised and recommendations offered in this discussion, as well as action in their behalf, can be the means for achieving improved and expanded co-operative education programming.

Appendix E

EMPLOYABILITY SKILLS - THE COLORADO INITIATIVE

A Summary of an Extract from an Article by David L Jesser in the Journal of Career Development, Volume II, Number 1, 1984

[Available in the Vocational Training Council Library]

The Project

(a) To determine what skills employers thought to be requisite for entry level employment

(b) To determine the degree to which employers perceived such skills to be present in high school graduates (that is, entry level employees)

(c) To develop mechanisms and strategies that would assist schools to assure that all students would have such skills upon leaving high school

Employability Skills Survey

The first two tasks were accomplished by a survey of 140 Colorado employers and representatives of the military. In brief the results indicated that, as perceived by employers, high school graduates hired for entry level positions lack, in varying degrees, many of the skills that had been identified by the employers as necessary for those positions. These include the following skills or competency areas:

Job Seeking
Mathematics
Computer
Reading
Writing

Communication

Interpersonal
Business Economics
Personal Economics
Manual/Perceptual
Job Retention/Career Development
Problem Solving/Reasoning

Employability Skills Conference

This Conference was called to initiate the third stage of the project. The major result was the establishment of a number of school/community partnership teams which have been developing plans designed to incorporate employability skills efforts into the schools.

These plans appear to have a number of common elements:

(a) Students entering the ninth grade will be assessed as to proficiency in identified employability skills or competencies

(b) Information about the employability skills of each student will be maintained in an Employability Skills Portfolio

(c) A student advisory team, or a similar entity serving in an advisory capacity, will meet with each student to review status, programmes, and needs relating to employability skills and to make recommendations regarding programmes

Employability Skills Checklist

For schools planning to implement a student assessment programme a checklist has been developed to enable schools to ascertain levels of employability skills achievement and to determine where the identified skills are covered in the curriculum.

The following illustrates one competency area contained in the Employability Skills Checklist:

Reading Competencies	Competent	Needs Help	Not Observed
Develops Vocabulary Related To Job			
Reads for Details and Special Information			
Interprets Pictorial, Graphic, and Symbolic Information			
Locates Needed Information			
Follows Intent of Written Directions/Instructions			
Interprets Ideas and Concepts (Comprehension)			
Reads Accurately at Appropriate Rate			

Employability Skills Portfolio

This is an important element of the scheme. The type of information that it is envisaged the portfolio would contain may describe the student's characteristics such as:

- Results of interest inventories
- The generalised results of aptitude or other special tests
- Records of involvement with the Colorado Career Information System (COCIS)

- Areas of the student's greatest strengths
- Areas of needed improvement

The student's current career goals should also be listed.

The purposes of the Portfolio are to provide a systematic means of collecting and keeping non-confidential student information and to assist in the provision of advice relevant to the student's immediate and long-range goals. It should be started when the student begins the ninth grade and be continued through the high school years. There should be a provision on the folder for naming an advisory team which would have the responsibility for reviewing available information about the student and providing advice about enrolment in classes. The team might include a community person, parents, or guardians, a counsellor, and a teacher.

It is probable that the single most important kind of information contained in the Portfolio is the record of achievement of employability skills described earlier. These skills may be listed either on a pre-printed folder or placed in the folder on a separate document. The achievement of skills should be marked by the advisory team at their meetings. In some instances, the accomplishment of skills might be assessed by students and their parents or guardians.

Other items that are placed in the folder include any data that could be instrumental in guiding the selection of in-school or out-of-school experiences, or in preparing applications for jobs. The following items should be considered:

- A resume that is updated each year
- Copies of letters of application
- Handwriting samples
- Records of employer or teacher evaluations
- Letters of recommendation
- Awards of honours
- Examples of completed application forms
- Copies of research studies
- Copies of selected student works or photographs or exemplary products

The Employability Skills Portfolio should be maintained in a place that is readily accessible to the student, the advisory team, and school personnel who are to record the achievement of skills. **The responsibility for maintaining the Portfolio should rest with the student.**

A second Portfolio, suitable for presentation to a prospective employer, should be prepared and kept ready for use, both during and following the student's high school years. This second Portfolio should make use of the information and examples in the regular Portfolio and contain the following: a checklist or summary of selected skills; an up-to-date resume; letters of recommendation; and examples or photographs of the student's work, if it is appropriate. This Employment Portfolio should be attractive - even impressive - and all enclosures should be neatly and accurately prepared. A richly coloured, embossed folder would be quite appropriate.

Curriculum Mapping

While students are being assessed as to their competencies in the several basic employability skills areas, the school will be examining its own curriculum in order to determine where basic employability skills are being addressed. In this process called curriculum mapping, faculty members indicate which, if any, of the skills or competencies are addressed in the various grades, subjects, or classes. A matrix, listing competencies and subjects or grades will be completed by faculty members. Using reading again as an example, teachers would indicate if students in their classes have the opportunity to:

- Recognise applications of reading in occupations
- Develop vocabulary related to careers/occupations
- Read for details and special information
- Interpret pictorial, graphic, and symbolic information
- Locate information in reference materials
- Follow intent of written directions
- Interpret ideas and concepts (comprehension)
- Read for accuracy at appropriate rates

The several areas suggested in the reading competencies portion of curriculum mapping will no doubt be included in most language arts classes. It is anticipated, however, that faculty members assigned to other subject-matter areas (math, social studies, science) also will be able to indicate that these competencies are addressed in their classes.

Employability Skills Partnership Programme

Six critical steps have been identified for the development of such a school/community programme:

(a) **Awareness:** Created in Colorado by the Employability Skills Conference

(b) **Information Exchange:** Informal meetings of interested groups involving school and community to share information and seek some type of commitment to the programme

(c) **Formation of Partnership Team:** This team aims to provide students with guidance, advice and assistance. It should be representative of school and community. Guidelines are suggested for its formation and operation

(d) **Initial Meeting with School Staff:** To fully explain the employability skills concept and to seek advice, comments and co-operation from the teaching staff. Questions such as who will do the necessary work, how can the necessary time be found and when must the work be done will need to be addressed

(e) **In Service Workshops:** While mainly for staff they should include the partnership team and other community organisations where possible. Topics suggested include:

Competencies/Levels	One Day
Curriculum Mapping	Two Days
Curriculum Analysis	Two Days
Student Portfolio	One Day
Student Advisement Team	One Day
Implementation Procedures	One Day
Evaluation Techniques/Procedures	One Day

(f) **Implementation:** When the preceding steps have been taken by a school/community, it can be assumed that a degree of readiness for an employability skills effort exists, and that a rather formal implementation process should begin. Here, as with other elements described herein, the state agency should be ready to provide technical assistance to schools/communities upon request.

Appendix F

ENTREPRENEURSHIP EDUCATION - The PACE Programme

(a) Introduction to PACE (Revised)

A Programme for Acquiring Competence in Entrepreneurship (PACE) is a modularised competency-based programme of instruction. PACE evolved out of the need for new materials to assist in the development of entrepreneurs and the need for a flexible and adaptable programme geared to a variety of student requirements, educational settings, and stages of individual career development. Several premises influenced the development of PACE:

(1) Entrepreneurship education is basically lacking in our schools. The entrepreneurship education that does occur is infused into existing courses and programmes in the vocational disciplines

(2) Generally, educators prepare individuals to be employees, not employers. There is a need for a programme to help educate students to be employers

(3) Career education has done little to acquaint individuals with entrepreneurship as a career option

(4) The content of an instructional programme must be based on research findings

(5) Certain learnings are generic and basic to entrepreneurship regardless of the type of business. There are also some specialised tasks required by each type of business

(6) Training to be an entrepreneur includes preparation in three major areas: (1) awareness of what it takes to become an entrepreneur, (2) knowledge of what is needed to establish a business, and (3) application of entrepreneurship principles to organising and managing a business

(7) Established and available instructional materials from governmental and reputable commercial publishers provide the major resource for day-to-day classroom instruction

(8) An instructional programme is useful only if it is flexible enough to be used in a variety of learning settings

(9) Instructional materials must be adaptable to a variety of teaching/learning styles

(10) A viable instructional programme includes materials adequate for instructor/student planning, and also resources for student learning

(11) Learning is best accomplished when it is a process of progression from the simple to the complex and when it meets present student needs

(b) A Framework for Life-Long Entrepreneurship Education

The model opposite has been developed in the United States to provide a framework for lifelong entrepreneurship education. It deals primarily with why an individual participates in activities at each stage, and the subsequent benefits that he or she would receive. It is an extract from Entrepreneurship Education, Networks that Work, The National Centre for Research in Vocational Education, 1960 Kenny Road, Columbus, Ohio

(c) The Entrepreneurship Curriculum

The following eighteen topics of individualised and competency based instruction make up the comprehensive entrepreneurship curriculum:

(1) Understanding the Nature of Small Business

(2) Determining Your Potential as an Entrepreneur

(3) Developing the Business Plan

(4) Obtaining Technical Assistance

(5) Choosing the Type of Ownership

(6) Planning the Marketing Strategy

(7) Locating the Business

(8) Financing the Business

(9) Dealing with Legal Issues

(10) Complying with Government Regulations

(11) Managing the Business

(12) Managing Human Resources

(13) Promoting the Business

(14) Managing Sales Efforts

(15) Keeping the Business Records

(16) Managing the Finances

(17) Managing Customer Credit and Collections

(18) Protecting the Business

A FRAMEWORK FOR LIFE-LONG ENTREPRENEURSHIP EDUCATION: THE MODEL

EDUCATION AND TRAINING STAGES		DEVELOPMENTAL NEEDS OF ENTREPRENEURS
Stage 1 Entrepreneurship career awareness, basic skills, and economic literacy	⇨	• to gain prerequisite basic skills • to identify career options • to understand free enterprise
Stage 2 Entrepreneurship interest and awareness	⇨	• to be aware of entrepreneurship competencies • to understand problems of employers
Stage 3 Creative application of occupational skills and entrepreneurship competencies	⇨	• to apply specific occupational training • to learn entrepreneurship competencies • to learn how to create new businesses
NEW VENTURE COMMITMENT		
Stage 4 Entrepreneurship venture development	⇨	• to become self-employed • to develop policies and procedures for a new or existing business
Stage 5 Long-term expansion/ redirection	⇨	• to solve business problems • to expand existing business effectively

Each level of PACE has a set of instructional units. The units deal with a competency or a set of competencies. Each unit is learner centered with opportunities for instructor enrichment and facilitation. All units are self-contained and are independent of each other. They are, however, sequenced in a logical progression of topics for a person considering entrepreneurship. All units follow the same format and include the following: objectives, preparation, overview, content, activities, assessment, notes and sources.

PACE is available at three levels of learning. Each level progresses from simple to complex concepts. The three levels of learning pattern is based on the belief that student achievement is greater when learning is sequenced from basic, fundamental concepts to more advanced, complex skills in an organised fashion and when it meets the present needs of the students.

Sample units at each level of Topic One, Understanding the Nature of Small Business, and a Level Two Instructors's Guide are available in the Vocational Training Council Library together with a brochure summarising the content of the different units at each level.

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